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ON THE USE OF WAX CELLS

In connection with White Zinc Cement for
Fluid Mounts.

BY W. H. WALMSLEY.

So much has been said and written on the preparation and use of Wax Cells, that the subject has become somewhat trite ; and I should hesitate to occupy your time, even for a moment, on this well-worn theme, were it not that one of their most important uses, for Fluid Mountings, seems to have been strangely overlooked.

Whilst a multitude of able papers, on their preparation and use in Opaque and other Dry Mounts, have been given to the world, I have seen none emphasizing their eminent adaptability to Mountings in Fluids.

My own experience in their use for this purpose, extending over a considerable length of time, having convinced me of their eminent usefulness, in the matters of economy, ease of preparation, and durability, have determined me to briefly state my method of work, in the hope that some of you may have the same satisfaction in this line that has attended my own efforts.

I should state, primarily, that my chief reliance for the permanence of these cells rests upon the use of the White Zinc Cement in their preparation, the Wax being regarded merely as a most suitable material for making cells of various depths.

Thirteen years use of this Zinc Cement, during which I have mounted thousands of slides with it, have satisfied me of it's entire permanence, whilst, at the same time, it is the most easily used of all cements with which I am acquainted ; drying rapidly, and with no tendency whatever to "run in", whilst the appearance of a slide mounted with it, is most elegant.

In preparing a cell for a fluid mount, a ring of the cement is first made upon the slide with a turn-table and allowed thoroughly to harden. If left for twenty-four hours, so much the better. This ring should be slightly wider than the cell of wax, which is to be placed upon it. The latter is punched from White Sheet Wax, either the "Double Thick" or "Pond-Lily" as may be desired. The cement ring being sufficiently hard, a second coat is run upon it, and the wax being placed upon the same, is gently and evenly pressed down. Another coat of the cement should now be applied, covering the wax ring and extending very slightly over the edges of the same on to the glass slide, inside and outside of the cell, and the whole set aside to harden. It is entirely safe to use the cell in an hour, if the cement be properly made, but a day's hardening will do no harm.

To complete the mounting—the materials being all ready before hand—a thin coating of the cement is run upon the top of the cell, taking care not to let it extend to the inner edge of the same, which is to be at once filled with the preservative fluid, and the preparation properly spread out therein.

A thin glass cover, slightly smaller than the outer diameter of the cell, must then be placed with one edge on the cell, and slowly lowered in the manner so well known to all of you, expelling all surplus fluid, and upon reaching the level of the cell must be gently pressed down with the forceps, when it will adhere all around its circumference to the freshly laid cement. A delicate spring clip may now be placed upon it, to insure its holding on, and the slide well washed with a camel's hair pencil in fresh water. If the fluid used be glycerine in any proportion, washing under running water may be necessary to remove all trace of the same.

A thorough drying with a soft towel should now be followed by another ring of the cement, which may be supplemented by others, as each coat becomes hard, until the work is completed. A narrow line of some colored cement upon the White Cell adds greatly to the neatness and beauty of its finish.

If a single ring of the Wax be insufficient to form a cell of the required depth, others may be cemented upon the first until the required depth is reached. I have used them with from one to five thicknesses of the Sheet Wax with equal facility and success.

The fluids I have principally used are Glycerine, pure, and diluted with water, Camphorated Water, Carbolic Acid and water, and Goadby's, which seem to cover a wide field: but I have no doubt that most preservative fluids may be employed with these Cells and this Cement.

I have the pleasure of submitting for your inspection a number of slides, with preparations in various depths of these cells, as practical illustrations of the same. And my main reliance being placed upon the White Zinc Cement, I have put with them specimens of Dry and Fluid Mounts, in which the cell is composed entirely of the same, and which have been prepared a number of years.

Whilst the merits of other well known cements are unquestioned, my long experience in the use of this particular one has been so uniformly satisfactory in every way that I feel I may be doing a service to many Microscopists by urging them to give it a persistent trial.